IN THE CLAIMS:

The current claim set of the application is presented below. Indications as to the status of the claims ("original", "currently amended", "cancelled", "new", etc.) appear in parentheses after the claim number. Deletions are identified in bold with double brackets and strikethrough (e.g. [[**~~deletion~~**]]) and new text is identified in bold with underlining (e.g. **new matter**).

1. (Currently Amended) A method for attenuating an immune response, comprising:

identifying a subject suffering from or at risk of a disease or disorder mediated by the immune response;

placing at least a portion of a lead comprising an electrode within a tissue of the subject at a location in which stimulation of the tissue by the electrode is capable of stimulating a sympathetic neuron;

applying [[**~~an~~**]] **a plurality of** electrical stimulation pulse**s** to the tissue via the electrode to stimulate the sympathetic neuron in an amount effective to attenuate the immune response**[[s]];**

sensing a condition of the subject; and

modifying a parameter of at least one of the plurality of electrical pulses based on the sensed condition,

wherein the sympathetic neuron is a neuron of a splenic nerve, splenic neurovascular bundle, a periarterial splenic nerve, splenic peritoneum, splenic tissue, celiac plexus surrounding the celiac artery, a celiac ganglion, an aorticorenal ganglion, a greater thoracic splanchnic nerve, a lesser thoracic splanchnic nerve, or a least thoracic splanchinc nerve,

wherein the disease or disorder is selected from the group consisting of allergy, anaphylactic shock, immune complex disease, hay fever, sepsis, septicemia, endotoxic shock, cachexia, hyperpyrexia, eosinophilic granuloma, granulomatosis, sarcoidosis, septic abortion, epididymitis, vaginitis, prostatitis, urethritis, bronchitis, emphysema, rhinitis, cystic fibrosis, pneumonitis, pelvic

inflammatory disease, alveolitis, bronchiolitis, pharyngitis, pleurisy, sinusitis, influenza, respiratory syncytial virus infection, herpes infection, HIV infection, disseminated bacteremia, Dengue fever, candidiasis, malaria, filariasis, amebiasis, hydatid cysts, burns, dermatitis, dermatomyositis, urticaria, warts, wheals, vasulitis, rheumatoid arthritis, Alzheimer's disease, meningitis, encephalitis, multiple sclerosis, Guillane-Barre syndrome, neuritis, neuralgia, spinal cord injury, paralysis, uveitis, arthritides, arthralgias, osteomyelitis, fasciitis, Paget's disease, gout, periodontal disease, synovitis, Sjogren's syndrome, myasthenia gravis, thryoiditis, systemic lupus erythematosus, lupus erythematosus, Addison's disease, pernicious anemia, Goodpasture's syndrome, Behcets's syndrome, allograft rejection, graft-versus-host disease, Berger's disease, Type I diabetes, ankylosing spondylitis, Retier's syndrome, Graves disease, and Hodgkins disease**,**

wherein sensing the condition comprises detecting a characteristic or symptom associated with a disorder or disease associated with the immune response or stimulation of the one or more neurons,

wherein the characteristic or symptom is selected from the group consisting of (i) presence of an immune mediator, (ii) an amount of an immune mediator, (iii) an objective symptom of the subject, and (iv) presence or amount of transforming growth factor (TGF), platelet-derived growth factor (PDGF), vascular endothelial growth factor (VEGF), epithelial growth factor (EGF), fibroblast growth factor (FGF), intracellular adhesion molecule (I-CAM), subtypes thereof, nitric oxide, nuclear factor kappa B (NFκ-B), early growth response protein (ERG-1), a mitogen-activated protein (MAP) kinase, toll-like receptors (TLRs), or a SMAD transcription factor, and

wherein the immune mediator is selected from the group consisting of a cytokine receptor, a chemokine, a chemokine receptor, a cell type involved in an immune respone, a cell surface molecule involved in an immune response, an exogenous antigen, a cytokine.

2. (Cancelled) ~~The method of claim 1, wherein a plurality of electrical pulses are applied to the tissue.~~

3. (Original) The method of claim 1, further comprising implanting a pulse generator within the subject, wherein the pulse generator produces the electrical stimulation pulse and is electrically coupled to the electrode.

4. (Original) The method of claim 1, wherein the electrode is placed in contact with the sympathetic neuron.

5 - 7. (Cancelled)

8. (Original) The method of claim 4, wherein the sympathetic neuron is a neuron of the splenic nerve.

9. (Original) The method of claim 1, wherein the sympathetic neuron is a neuron of the splenic nerve.

10. (Previously Presented) The method of claim 1, wherein the electrode is placed in contact with splenic tissue.

11 - 14. (Cancelled)

15. (Original) The method of claim 1, wherein the immune response is an inflammatory immune response.

16. (Cancelled)

17. (Cancelled)

18. (Cancelled) ~~The method of claim 2, further comprising:~~
~~sensing a condition, and~~
~~modifying a parameter of at least one of the plurality of electrical pulses based on the sensed condition.~~

19. (Cancelled) ~~The method of claim 18, wherein sensing the condition comprises detecting a characteristic or symptom associated with a disorder or disease associated with the immune response or stimulation of the one or more neurons.~~

20. (Cancelled) ~~The method of claim 19, wherein the characteristic or symptom is selected from the group consisting of presence of an immune mediator, an amount of an immune mediator, and an objective symptom of the subject~~.

21. (Currently Amended) The method of claim **[[~~20~~]]** **1**, wherein the immune mediator is a cytokine receptor.

22. (Original) The method of claim 21, wherein the cytokine receptor is selected from the group consisting of TNF receptor, IL-1b receptor, and Toll-like receptors.

23. (Original) The method of claim 22, wherein the immune mediator is a chemokine.

24. (Original) The method of claim 23, wherein the chemokine is selected from the group consisting of 6Ckine and MIP3beta.

25. (Currently Amended) The method of claim **[[~~20~~]] 1**, wherein the immune mediator is a chemokine receptor.

26. (Original) The method of claim 25, wherein the chemokine receptor is CCR7 receptor.

27. (Currently Amended) The method of claim **[[~~20~~]] 1**, wherein the immune mediator is a cell type involved in an immune response.

28. (Original) The method of claim 27, wherein the cell type is selected from the group consisting of Langerhans cell, dendritic cell, T lymphocyte, and B lymphocyte.

29. (Currently Amended) The method of claim **[[~~20~~]] 1**, wherein the immune mediator is a cell surface molecule involved in an immune response.

30. (Original) The method of claim 29, wherein the cell surface molecule is selected from the group consisting of major histocompatibility complex (MHC), CD80, CD86, CD28, CD40.

31. (Currently Amended) The method of claim **[[~~20~~]] 1**, wherein the immune mediator is an exogenous antigen.

32. (Original) The method of claim 31, wherein the exogenous antigen is selected from the group consisting of a bacterial antigen, a viral antigen, and a fungal antigen.

33. (Currently Amended) The method of claim **[[~~20~~]] 1**, wherein the immune mediator is a cytokine.

34. (Previously Presented) The method of claim 33, wherein the cytokine is a pro-inflammatory or anti-inflammatory cytokine.

35. (Original) The method of claim 34, wherein the cytokine is selected from the group consisting of tumor necrosis factor alpha (TNFα), interleukin (IL)-1α, IL-1β, IL-5, IL-6, IL-8, IL-18, interferony, platelet –activating factor (PAF), macrophage migration inhibitory factor (MIF), high mobility group box protein 1 (HMGB-1), IL-4, IL-10, IL-13, and IL-17.

36. (Currently Amended) The method of claim **[[~~18~~]] 1**, wherein the condition is the presence or amount of transforming growth factor (TGF), platelet-derived growth factor (PDGF), vascular endothelial growth factor (VEGF), epithelial growth factor (EGF), fibroblast growth factor (FGF), intracellular adhesion molecule (I-CAM), subtypes thereof, or nitric oxide.

37. (Currently Amended) The method of claim **[[~~18~~]] 1**, wherein at least one of the one or more conditions is the presence or amount of nuclear factor kappa B (NFκ-B), early growth response protein (ERG-1), a mitogen-activated protein (MAP) kinase, toll-like receptors (TLRs), or a SMAD transcription factor.

38. (Cancelled) ~~The method of claim 18, wherein the condition is selected from the group consisting of white blood cell count, body temperature, degree of swelling, degree of flushing, pain tolerance, and electrical activity of the subject's heart.~~

39. (Cancelled) ~~The method of claim 18, wherein sensing the condition comprises detecting a condition associated with stimulation of a sympathetic neuron.~~

40. (Cancelled) ~~The method of claim 39, wherein the sensing the condition comprises detecting a membrane potential of a neuron.~~

41. (Cancelled) ~~The method of claim 36, wherein the sensing the condition comprises detecting a frequency with which the stimulated neuron undergoes an action potential.~~

42. (Cancelled) ~~The method of claim 39, the sensing the condition comprises detecting a sympathetic neurotransmitter, or metabolite thereof.~~

43 - 53. (Cancelled)

54. (Currently Amended) A method for attenuating an immune response, comprising:

identifying a mammalian subject suffering from or at risk of a disease or disorder mediated by the immune response;

placing at least a portion of a lead comprising an electrode within a tissue of the mammalian subject at a location in which stimulation of the tissue by the electrode is capable of stimulating a sympathetic neuron; and

applying [[~~an~~]] **a plurality of** electrical stimulation pulse**s** to the tissue via the electrode to stimulate the sympathetic neuron in an amount effective to attenuate the immune response**[[s]];**

sensing a condition of the subject; and

modifying a parameter of at least one of the plurality of electrical pulses based on the sensed condition,

wherein the disease or disorder mediated by the immune response is selected from the group consisting of allergy, anaphylactic shock, immune complex disease, hay fever, sepsis, septicemia, endotoxic shock, cachexia, hyperpyrexia, eosinophilic granuloma, granulomatosis, sarcoidosis, septic abortion, epididymitis, vaginitis, prostatitis, urethritis, bronchitis, emphysema, rhinitis, cystic fibrosis, pneumonitis, pelvic inflammatory disease, alveolitis, bronchiolitis, pharyngitis, pleurisy, sinusitis, influenza, respiratory syncytial virus infection, herpes infection, HIV infection, disseminated bacteremia, Dengue fever, candidiasis, malaria, filariasis, amebiasis, hydatid cysts, burns, dermatitis, dermatomyositis, urticaria, warts, wheals, vasulitis, rheumatoid arthritis, Alzheimer's disease, meningitis, encephalitis, multiple sclerosis, Guillanc-Barre syndrome, neuritis, neuralgia, spinal cord injury, paralysis, uveitis, arthritides, arthralgias, osteomyelitis, fasciitis, Paget's disease, gout, periodontal disease, synovitis, Sjogren's syndrome, myasthenia gravis, thryoiditis, systemic lupus erythematosus, lupus

erythematosus, Addison's disease, pernicious anemia, Goodpasture's syndrome, Behcets's syndrome, allograft rejection, graft-versus-host disease, Berger's disease, Type I diabetes, ankylosing spondylitis, Retier's syndrome, Graves disease, and Hodgkins disease**,**

wherein sensing the condition comprises detecting a characteristic or symptom associated with a disorder or disease associated with the immune response or stimulation of the one or more neurons,

wherein the characteristic or symptom is selected from the group consisting of (i) presence of an immune mediator, (ii) an amount of an immune mediator, (iii) an objective symptom of the subject, and (iv) presence or amount of transforming growth factor (TGF), platelet-derived growth factor (PDGF), vascular endothelial growth factor (VEGF), epithelial growth factor (EGF), fibroblast growth factor (FGF), intracellular adhesion molecule (I-CAM), subtypes thereof, nitric oxide, nuclear factor kappa B (NFκ-B), early growth response protein (ERG-1), a mitogen-activated protein (MAP) kinase, toll-like receptors (TLRs), or a SMAD transcription factor, and

wherein the immune mediator is selected from the group consisting of a cytokine receptor, a chemokine, a chemokine receptor, a cell type involved in an immune respone, a cell surface molecule involved in an immune response, an exogenous antigen, a cytokine.

55. (Cancelled) ~~The method of claim 54, wherein a plurality of electrical pulses are applied to the tissue.~~

56. (Original) The method of claim 54, further comprising implanting a pulse generator within the subject, wherein the pulse generator produces the electrical stimulation pulse and is electrically coupled to the electrode.

57. (Original) The method of claim 54, wherein placing the lead comprises placing the electrode in contact with the sympathetic neuron.

58. (Original) The method of claim 54, wherein the sympathetic neuron is a neuron selected from the group consisting of a projection from the brain to the spinal cord; an interneuron; a pre-ganglionic neuron; a ganglion; and a post-ganglionic neuron.

59. (Original) The method of claim 58, wherein the sympathetic neuron is a post-ganglionic neuron.

60. (Original) The method of claim 59, wherein the sympathetic neuron is a neuron of the splenic nerve.

61. (Original) The method of claim 60, wherein the sympathetic neuron is a neuron of the splenic nerve.

62. (Original) The method of claim 54, wherein the sympathetic neuron is a neuron of the splenic nerve.

63. (Original) The method of claim 54, wherein placing the lead comprises placing the electrode in contact with an end organ.

64. (Original) The method of claim 63, wherein the end organ is a lymph organ.

65. (Original) The method of claim 64, wherein the lymph organ is a spleen.

66. (Original) The method of claim 54, wherein placing the lead comprises placing the electrode in contact with tissue of an organ in a peritoneal sac.

67. (Original) The method of claim 66, wherein the organ in the peritoneal sac is selected from the group consisting of pancreas; stomach; and intestine.

68 - 129. (Cancelled)

130. (Previously Presented) The method of claim 1, wherein applying the electrical stimulation pulse comprises applying the pulse to a celiac plexus surrounding the celiac artery.

131. (Previously Presented) The method of claim 1, wherein applying the electrical stimulation pulse comprises applying the pulse to a splenic neurovascular bundle.

132. (Previously Presented) The method of claim 1, wherein applying the electrical stimulation pulse comprises applying the pulse to a periarterial splenic nerve.

133. (Previously Presented) The method of claim 1, wherein applying the electrical stimulation pulse comprises applying the pulse to a splenic peritoneum.

134. (Previously Presented) The method of claim 1, wherein applying the electrical stimulation pulse comprises applying the pulse to a celiac ganglia.

135. (Previously Presented) The method of claim 1, wherein applying the electrical stimulation pulse comprises applying the pulse to an aorticorenal ganglia.

136. (Previously Presented) The method of claim 1, wherein applying the electrical stimulation pulse comprises applying the pulse to a greater thoracic splanchnic nerve.

137. (Previously Presented) The method of claim 1, wherein applying the electrical stimulation pulse comprises applying the pulse to a lesser thoracic splanchnic nerve.

138. (Previously Presented) The method of claim 1, wherein applying the electrical stimulation pulse comprises applying the pulse to a least thoracic splanchnic nerve.

139. (Previously Presented) The method of claim 54, wherein the disease or disorder is selected from the group consisting of allergy, anaphylactic shock, immune complex disease, hay fever, sepsis, septicemia, and endotoxic shock.

140. (Previously Presented) The method of claim 54, wherein the disease or disorder is cachexia.

141. (Previously Presented) The method of claim 54, wherein the disease or disorder is hyperpyrexia.

142. (Previously Presented) The method of claim 54, wherein the disease or disorder is eosinophilic granuloma.

143. (Previously Presented) The method of claim 54, wherein the disease or disorder is granulomatosis.

144. (Previously Presented) The method of claim 54, wherein the disease or disorder is sarcoidosis.

145. (Previously Presented) The method of claim 54, wherein the disease or disorder is septic abortion.

146. (Previously Presented) The method of claim 54, wherein the disease or disorder is epididymitis.

147. (Previously Presented) The method of claim 54, wherein the disease or disorder is vaginitis.

148. (Previously Presented) The method of claim 54, wherein the disease or disorder is prostatitis.

149. (Previously Presented) The method of claim 54, wherein the disease or disorder is urethritis.

150. (Previously Presented) The method of claim 54, wherein the disease or disorder is bronchitis.

151. (Previously Presented) The method of claim 54, wherein the disease or disorder is emphysema.

152. (Previously Presented) The method of claim 54, wherein the disease or disorder is rhinitis.

153. (Previously Presented) The method of claim 54, wherein the disease or disorder is cystic fibrosis.

154. (Previously Presented) The method of claim 54, wherein the disease or disorder is pneumonitis.

155. (Previously Presented) The method of claim 54, wherein the disease or disorder is pelvic inflammatory disease.

156. (Previously Presented) The method of claim 54, wherein the disease or disorder is alvealitis.

157. (Previously Presented) The method of claim 54, wherein the disease or disorder is bronchiolitis.

158. (Previously Presented) The method of claim 54, wherein the disease or disorder is pharyngitis.

159. (Previously Presented) The method of claim 54, wherein the disease or disorder is pleurisy.

160. (Previously Presented) The method of claim 54, wherein the disease or disorder is sinusitis.

161. (Previously Presented) The method of claim 54, wherein the disease or disorder is selected from the group consisting of influenza, respiratory syncytial virus infection, herpes infection, HIV infection, disseminated bacteremia, Dengue fever, candidiasis, malaria, and filariasis, amebiasis.

162. (Previously Presented) The method of claim 54, wherein the disease or disorder is hydatid cysts, burns, dermatitis, dermatomyositis, urticaria, warts, and wheals.

163. (Previously Presented) The method of claim 54, wherein the disease or disorder is vasulitis.

164. (Previously Presented) The method of claim 54, wherein the disease or disorder is arthritides or rheumatoid arthritis.

165. (Previously Presented) The method of claim 54, wherein the disease or disorder is Alzheimer's disease.

166. (Previously Presented) The method of claim 54, wherein the disease or disorder is meningitis.

167. (Previously Presented) The method of claim 54, wherein the disease or disorder is encephalitis.

168. (Previously Presented) The method of claim 54, wherein the disease or disorder is multiple sclerosis.

169. (Cancelled)

170. (Previously Presented) The method of claim 54, wherein the disease or disorder is Guillane-Barre syndrome.

171. (Previously Presented) The method of claim 54, wherein the disease or disorder is neuritis.

172. (Previously Presented) The method of claim 54, wherein the disease or disorder is neuralgia.

173. (Previously Presented) The method of claim 54, wherein the disease or disorder is spinal cord injury.

174. (Previously Presented) The method of claim 54, wherein the disease or disorder is paralysis.

175. (Previously Presented) The method of claim 54, wherein the disease or disorder is uveitis.

176. (Previously Presented) The method of claim 54, wherein the disease or disorder is arthralgias.

177. (Previously Presented) The method of claim 54, wherein the disease or disorder is osteomyelitis.

178. (Previously Presented) The method of claim 54, wherein the disease or disorder is fasciitis.

179. (Previously Presented) The method of claim 54, wherein the disease or disorder is Paget's disease.

180. (Previously Presented) The method of claim 54, wherein the disease or disorder is gout.

181. (Previously Presented) The method of claim 54, wherein the disease or disorder is periodontal disease.

182. (Previously Presented) The method of claim 54, wherein the disease or disorder is synovitis.

183. (Previously Presented) The method of claim 54, wherein the disease or disorder is Sjogren's syndrome.

184. (Previously Presented) The method of claim 54, wherein the disease or disorder is myasthenia gravis.

185. (Previously Presented) The method of claim 54, wherein the disease or disorder is thryoiditis.

186. (Previously Presented) The method of claim 54, wherein the disease or disorder is lupus erythematosus or systemic lupus erythematosus.

187. (Previously Presented) The method of claim 54, wherein the disease or disorder is Addison's disease,.

188. (Previously Presented) The method of claim 54, wherein the disease or disorder is pernicious anemia.

189. (Previously Presented) The method of claim 54, wherein the disease or disorder is Goodpasture's syndrome.

190. (Previously Presented) The method of claim 54, wherein the disease or disorder is Behcets's syndrome.

191. (Previously Presented) The method of claim 54, wherein the disease or disorder is allograft rejection or graft-versus-host disease.

192. (Previously Presented) The method of claim 54, wherein the disease or disorder is Berger's disease.

193. (Previously Presented) The method of claim 54, wherein the disease or disorder is Type I diabetes.

194. (Previously Presented) The method of claim 54, wherein the disease or disorder is ankylosing spondylitis.

195. (Previously Presented) The method of claim 54, wherein the disease or disorder is Retier's syndrome.

196. (Previously Presented) The method of claim 54, wherein the disease or disorder is Graves disease.

197. (Previously Presented) The method of claim 54, wherein the disease or disorder is Hodgkins disease.

198. (Currently Amended) A method for inhibiting release of a proinflammatory mediator from a mammalian cell, comprising:
identifying a mammalian subject suffering from, or at risk for, a disease or disorder mediated by a proinflammatory mediator; and

[[~~stimulating~~]] **applying a plurality of electrical stimulation pulses to** a sympathetic neuron of the subject in an amount effective to inhibit the release of the proinflammatory mediator[[,]]**;**

sensing a condition of the subject; and

modifying a parameter of at least one of the plurality of electrical pulses based on the sensed condition,

wherein the disease or disorder mediated by a proinflammatory mediator is selected from the group consisting of allergy, anaphylactic shock, immune complex disease, hay fever, sepsis, septicemia, endotoxic shock, cachexia, hyperpyrexia, eosinophilic granuloma, granulomatosis, sarcoidosis, septic abortion, epididymitis, vaginitis, prostatitis, urethritis, bronchitis, emphysema, rhinitis, cystic fibrosis, pneumonitis, pelvic inflammatory disease, alveolitis, bronchiolitis, pharyngitis, pleurisy, sinusitis, influenza, respiratory syncytial virus infection, herpes infection, HIV infection, disseminated bacteremia, Dengue fever, candidiasis, malaria, filariasis, amebiasis, hydatid cysts, burns, dermatitis, dermatomyositis, urticaria, warts, wheals, vasulitis, rheumatoid arthritis, Alzheimer's disease, meningitis, encephalitis, multiple sclerosis, Guillane-Barre syndrome, neuritis, neuralgia, spinal cord injury, paralysis, uveitis, arthritides, arthralgias, osteomyelitis, fasciitis, Paget's disease, gout, periodontal disease, synovitis, Sjogren's syndrome, myasthenia gravis, thryoiditis, systemic lupus erythematosus, lupus erythematosus, Addison's disease, pernicious anemia, Goodpasture's syndrome, Behcets's syndrome, allograft rejection, graft-versus-host disease, Berger's disease, Type I diabetes, ankylosing spondylitis, Retier's syndrome, Graves disease, and Hodgkins disease**,**

wherein sensing the condition comprises detecting a characteristic or symptom associated with a disorder or disease associated with the immune response or stimulation of the one or more neurons,

wherein the characteristic or symptom is selected from the group consisting of (i) presence of an immune mediator, (ii) an amount of an immune mediator, (iii) an objective symptom of the subject, and presence or amount of transforming growth factor (TGF), platelet-derived growth factor (PDGF), vascular endothelial growth factor (VEGF), epithelial growth factor (EGF), fibroblast growth factor (FGF), intracellular adhesion molecule (I-CAM), subtypes thereof, nitric oxide, nuclear factor kappa B (NFκ-B), early growth response protein (ERG-1), a mitogen-activated protein (MAP) kinase, toll-like receptors (TLRs), or a SMAD transcription factor, and

wherein the immune mediator is selected from the group consisting of a cytokine receptor, a chemokine, a chemokine receptor, a cell type involved in an immune respone, a cell surface molecule involved in an immune response, an exogenous antigen, a cytokine.

199. (Currently Amended) A method of inhibiting an inflammatory cytokine cascade in a patient, comprising:

[[~~stimulating~~]] applying a plurality of electrical stimulation pulses to a sympathetic neuron in the patient in an amount sufficient to inhibit the inflammatory cytokine cascade,

wherein the patient is diagnosed as suffering from, or at risk for, a disease or disorder mediated by the inflammatory cytokine cascade**[[,]],**

sensing a condition of the subject; and

modifying a parameter of at least one of the plurality of electrical pulses based on the sensed condition,

wherein the disease or disorder mediated by a proinflammatory mediator is selected from the group consisting of allergy, anaphylactic shock, immune complex disease,

hay fever, sepsis, septicemia, endotoxic shock, cachexia, hyperpyrexia, eosinophilic granuloma, granulomatosis, sarcoidosis, septic abortion, epididymitis, vaginitis, prostatitis, urethritis, bronchitis, emphysema, rhinitis, cystic fibrosis, pneumonitis, pelvic inflammatory disease, alveolitis, bronchiolitis, pharyngitis, pleurisy, sinusitis, influenza, respiratory syncytial virus infection, herpes infection, HIV infection, disseminated bacteremia, Dengue fever, candidiasis, malaria, filariasis, amebiasis, hydatid cysts, burns, dermatitis, dermatomyositis, urticaria, warts, wheals, vasulitis, rheumatoid arthritis, Alzheimer's disease, meningitis, encephalitis, multiple sclerosis, Guillane-Barre syndrome, neuritis, neuralgia, spinal cord injury, paralysis, uveitis, arthritides, arthralgias, osteomyelitis, fasciitis, Paget's disease, gout, periodontal disease, synovitis, Sjogren's syndrome, myasthenia gravis, thryoiditis, systemic lupus erythematosus, lupus erythematosus, Addison's disease, pernicious anemia, Goodpasture's syndrome, Behcets's syndrome, allograft rejection, graft-versus-host disease, Berger's disease, Type I diabetes, ankylosing spondylitis, Retier's syndrome, Graves disease, and Hodgkins,

wherein sensing the condition comprises detecting a characteristic or symptom associated with a disorder or disease associated with the immune response or stimulation of the one or more neurons,

wherein the characteristic or symptom is selected from the group consisting of (i) presence of an immune mediator, (ii) an amount of an immune mediator, (iii) an objective symptom of the subject, and (iv) presence or amount of transforming growth factor (TGF), platelet-derived growth factor (PDGF), vascular endothelial growth factor (VEGF), epithelial growth factor (EGF), fibroblast growth factor (FGF), intracellular adhesion molecule (I-CAM),

subtypes thereof, nitric oxide, nuclear factor kappa B (NFκ-B), early growth response protein (ERG-1), a mitogen-activated protein (MAP) kinase, toll-like receptors (TLRs), or a SMAD transcription factor, and

wherein the immune mediator is selected from the group consisting of a cytokine receptor, a chemokine, a chemokine receptor, a cell type involved in an immune respone, a cell surface molecule involved in an immune response, an exogenous antigen, a cytokine.